

HW ANSWERS:

(2) (a) Yes. 2 outcomes (6 or not 6)

(b) No. More than 2 outcomes.

(c) Yes. As long as dolls are independent.

(d) No. Probabilities of Dem and Repub. change as people are picked.

(e) Yes. Assuming responses are independent.

(8) Probably not. Pieces of luggage checked together are not independent of each other.

(10) $p = 0.02$

(a) $P(X=5) = (0.98)^4(0.02) = 0.01845$

(b) $P(X=1) + P(X=2) + P(X=3) + \dots + P(X=10) =$
 $0.02 + 0.0196 + 0.0192 + \dots + 0.0167 = 0.1829$

12) Expected number = average = $1/p = 1/0.02 = 50$

14) probability of getting a \$100 donor = $(0.20)(0.05) = 0.01$

Expected number = average = $1/p = 1/0.01 = 100$

15) (a) Average = $1/p = 1/0.04 = 25$ donors

$$p = 0.04$$

(b) $P(X = 1) + P(X = 2) + \dots + P(X = 5) = 0.185$

(c) $P(X = 1) + P(X = 2) + \dots + P(X = 6) = 0.2176$

(d) $(0.96)^9 = 0.693$

$$(0.96)^5 (0.04)$$
$$(0.96)^9$$